

The University of Texas at El Paso
Department of Biological Sciences
College of Science

Course # and Title: BIOL 3321, Evolution (CRN 21707)

Credit Hours: 3 credit hours upper division

Term: Spring, 2015

Course Meetings and Location: TR 12:00-1:20PM, LART 108

Prerequisite Courses: BIOL 3320 Genetics (co-enrollment only by permission of instructor)
and BIOL 1305-1107, BIOL 1306-1108 [or equivalent]

Instructor: Dr. Carl S. Lieb

Office Location: “Old Biology” Building B-204

Contact Information: Office telephone: 747-6987 (**preferred**);
email: clieb@utep.edu Warning: Dr. Lieb’s office telephone is the most reliable means for time-sensitive communication. If you insist on using email, and do not receive a reply within a few days, send it again (... and again).

Office Hours: MW 10:00-11:00 AM, W 1:30-2:30 PM, and by appointment (see contact information, above).

Textbook (Optional): Zimmer, Carl & Douglas J. Emlen. 2013. *Evolution: Making Sense of Life*. Roberts and Company, Greenwood Village, Colorado ISBN: 9781936221172 (Hardback) 9781936221363(Paperback). This textbook is not required for success in this semester’s edition of BIOL 3321, but some students may wish to have a written reference work on hand (and this book is current and about as good as any). It is highly recommended, however, that each student have available to them a modern introductory biology textbook for emergency use when “holes” in their scholarly preparation for BIOL 3321 are manifested. **Nevertheless, neither only perusing materials posted on Blackboard, or only reading any textbook, will not and cannot** substitute for faithful, without-fail attendance at the lecture sessions, taking satisfactory notes thereon, and thoroughly mastering the biological content of those notes.

Course Objectives (Learning Outcomes): The primary learning outcome for this course is that every student will achieve a level of understanding of evolutionary principles, concepts, and hypotheses commensurate with a B.S. degree in biological sciences. A secondary learning outcome is that each student will, by exposure the basic evolutionary concepts and thinking, be well-equipped to go on (should they wish to do so) to the more advanced topics and techniques that support undergraduate and graduate research in this discipline.

Course Activities/Assignments: BIOL 3321 is a lecture class [if necessary, read again the above comment about the optional textbook not substituting for attendance and note-taking]. The conceptual material is presented in a sequence such full understanding of one concept is desired before the next one may be taken up; it is thus important that students keep pace with the instructor’s exposition. For this reason, a brief weekly quiz will be given at the beginning of each Thursday class session. Students must be on-time to class to take the quiz. Missed quizzes, because of absence or tardiness, and regardless of how worthy the reason, are not subject to being taken or made up.

Assessment of Learning: Three in-class examinations will be given, one on 26 February, one on 16 April, and a comprehensive final examination on the required date and time for the course (12 May @ 1:00PM). There is neither a term paper nor “extra credit” in this course, please do not ask for either.

A required pretest on genetics and evolution will be given on the first class day (20 January). This anonymous test is for course and curriculum evaluation purposes and has no effect on student grades. However, any student who is absent or otherwise does not complete the pretest on 20 January must make arrangements with the instructor to take the pretest before Census Day (5 February) on penalty of being dropped from the class roll.

Grading Policy: The examinations will be given on the following dates, and will contribute proportionately to the final grade as follows: **FIX THIS**

Examination I (26 February): 25%

Examination II (16 April): 30%

Final Examination (12 May): 25%

The balance of the grade will come from: weekly quizzes (15%) and attendance: 5% (detected in part by random checks, see Attendance Policy, below)

Examination No-show Policy: Failure to take Exam I (and square it in prompt fashion with Dr. Lieb; see “no show” policy below) may result in the student being arbitrarily dropped from the class roll.

A missed lecture examination contributes zero percent toward the student’s final course grade, and thus represents a serious perturbation in his/her class progress and a catastrophe for grade expectations. These problems must be handled on a case-by-case basis at the discretion of Dr. Lieb, who **insists** that the following rule be observed: If a student must miss an examination (including the Final) because of illness, death in the family, University-sponsored event, or any other reason other than their own demise, he or she must contact Dr. Lieb **by telephone @ 747-6987** (leave voicemail message if not answered), either **BEFORE** the test date or **WITHIN 48 HOURS following the time of the start of the examination and (for Exam I or II), BEFORE the next class period. NEVER RELY ON E-MAIL FOR CONTACTING DR. LIEB UNDER THESE CIRCUMSTANCES.** The student is expected to personally discuss the situation with Dr. Lieb within that 48-hour period, and arrange for an immediate solution.

Regardless of the performance on the other exams, the comprehensive Final Examination must be taken to pass the course.

Drop Policy: The student drop date is 6 April 2015. The results of the first lecture examination and several quizzes will be known by that time, and students are thus expected to act wisely in their own interest. The instructor will **NOT** drop a student who has taken the pre-test, or any examination or quiz, or has been recorded as coming to class even once; withdrawal action must be taken by the student’s own initiative by this 6 April deadline. After 6 April, a student may drop the course with a “W” only by written petition to the Dean of Science through Dr. Lieb. Students who find themselves in academic trouble during the semester should promptly consult with the Dr. Lieb so that their options can be explored (i.e., don’t wait until the end of the term).

Attendance Policy: Attendance at every class meeting by every student is expected.

Attendance will be checked randomly during the semester, usually during towards the end of the

lecture period. Being “caught” AWOL (Absent Without Leave, that is, an *unexcused* absence) will result in the loss of 1% of the student’s attendance component of their final grade for each detected absence -- until that 5% is lost completely. Moreover, woe to the student who sneaks out of the lecture hall right after taking the weekly quiz!

More importantly, in attendance or not, students are held responsible for all materials presented, discussed, or assigned during class time.

Academic Integrity Policy: Despite his outward cynicism, your instructor more-or-less believes in the general goodness and honesty of his fellow human beings. Nevertheless, those who try to shatter his illusions and betray the norms of academic integrity will be turned in to the Dean of Students for disciplinary action. You may review UTEP policy in these matters at <http://academics.utep.edu/Default.aspx?tabid=23785>.

Civility Policy: Civility between the student members of the class, and between the instructor and the students, is expected. Please use polite & temperate language at all times.

Silence your cell phone before entering the classroom; please do not take calls during class time. Avoid all noisy endeavors not related to the matter at hand (talking, eating, snapping chewing gum, snoring, etc.).

Your instructor will do his best to be there by the start of the class (12:00 noon) please emulate him with timely appearances as well. *Nevertheless, he would prefer you to be a few minutes late to being completely absent for the entire period (as a rare event, not something that happens frequently!)*. The general rule is: if you must enter or leave the room when class is in session, do so as quietly and quickly as possible.

Timeliness is especially important for examinations. In general a late-coming student will not be allowed to take an examination after the first student to complete it has left the room.

Disability Policy: If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the Center for Accommodations and Support Services (CASS) at 747-5148 or at <cass@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any CASS accommodation letters and instructions.

Military Call-up: Your instructor understands that students engaged in military service may be called up and deployed at any time; moreover such deployment may also affect family members of soldiers who are taking classes. Please consult with Dr. Lieb as soon as orders affecting student attendance come through.

Course Schedule/Calendar: The course will be divided into three parts: The first part (roughly from beginning of class to about Spring Break) will briefly review the history of evolutionary thinking, and then cover basic microevolutionary mechanisms and outcomes. The second segment (following Spring Break to about Examination II) will deal with species-level evolution. The third segment (after Exam II through the last class day in May) will be concerned with macroevolutionary processes above the species level.

The following ambitious schedule of lecture topics may be subject to modification as the semester deteriorates. **Examination dates, however, are fixed.** Should the lecture topics fall

behind (or get ahead) in the schedule, Examinations I and II will in that case follow the pace of the lecture material present.

Course Calendar

20 January – Review of course policies; Pre-test; evolutionary biology as a scientific discipline

22 January – Pre-Darwin evolutionary thinking; Darwinian evolution

27 & 29 January – The development of genetics and post-Darwin evolutionary thinking

3 & 5 February -- Principles of natural selection at the population level

10 & 12 February – Allele frequency change in populations; costs of selection

17 & 19 February – Genetic Drift

24 February -- Review Session for Examination I (attendance will be verified)

26 February – Examination I

3 & 5 March - Group and sexual selection

10 & 12 March – Days included in Spring Break (no classes)

17 & 19 March – Species, homology, and phylogeny as evolutionary concepts

24 & 26 March – Phylogenetic taxonomy; evolutionary genetics

31 March – Chavez Day (no classes, university open)

2 & 7 April – Allopatric speciation; vicariance biogeography

9 & 14 April – Sympatric and parapatric speciation

16 April – Examination II

21 & 23 April – Extinction and mass extinction

28 & 30 April – Evolution of Novelty; adaptive radiations

5 May – Convergent evolution, coevolution, and other macroevolutionary topics.

7 May – Human evolution

12 May, 1:00 – 3:45 PM – Comprehensive Final Examination